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Harold L. Leupp

HOW PRINTS ARE MADE

ATHERTON CURTIS

MOUNT KISCO, NEW YORK
1902

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CONTENTS

	Introductory Note	5
I.	Burin Engraving	7
II.	Etching	7
III.	Aquatint	8
IV.	Soft-ground Etching	9
V.	Dry-point	9
VI.	Mezzotint	10
VII.	Printing from Copperplates	10
VIII.	Wood-engraving	11
IX.	Lithography	12
X.	General Remarks on Printing	13
XI.	Colour-printing	13
XII.	Original and Interpretative Prints	14
XIII.	Technical Terms	18
XIV.	Remarque and Signed Proofs	20

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HOW PRINTS ARE MADE

I

Burin Engraving

Engraving is done generally upon a thin, flat copperplate. The instrument used is a small, pointed chisel, which gives a V-shaped cut. It is known as a burin or a graver. The strength of the line is varied by the size of the burin, and by the depth of the cut. The engraver works by pushing the burin from him, holding it almost flat against the plate.

This is the process employed by Dürer and the early masters. It is often known as *line engraving,* but this term is not strictly correct, since any engraving process that works in line has as good a right to the title. It is also known simply as *engraving,* in distinction to *etching,* and is popularly called *steel-engraving,* though steel plates are rarely used, except in commercial work, copperplates having always been the medium for artistic engraving.

II

Etching

A copperplate is generally used, though etching may be done on zinc, iron, and other materials.

The plate is heated, and a ball of etching-ground, composed chiefly of wax, is melted upon it. This is made smooth by means of a silk pad, known as a *dabber* because it is dabbed gently upon the plate. When the etching-ground becomes cold it forms an extremely thin varnish

upon the surface of the plate. The varnish is then smoked by holding the plate over a candle. This process blackens it for the purpose of permitting the etcher to see his lines. The etcher draws upon the plate with a pointed instrument called an etching-needle, which is held in the hand in the same way as an ordinary pencil. The needle cuts through the etching-ground and exposes the copperplate below, leaving a shining copper line against the black, smoked surface. When the drawing is finished the plate is put into a tray containing an acid. The etching-ground is impervious to the acid, but the copper is not. Hence, the acid eats into the plate wherever the copper has been laid bare by the needle. The action of the acid forms a line cut in below the surface of the plate, and the deeper and wider this line, the heavier and blacker it will print. This operation with the acid is known technically as *biting the plate*. If the artist wishes to bite some lines deeper than others, he takes the plate from the acid and covers the lines that have been bitten deeply enough with a liquid varnish known as *stopping-out varnish*. This is applied with a brush. When the lines are thus stopped out, the plate is replaced in the acid and the biting continues in the unstopped lines. When all the lines have been bitten to the required depth, the plate is taken from the acid, the etching-ground is removed, and the plate is ready for the printing.

III

Aquatint

This is practically etching. The ground is of a sandy nature, which leaves minute interstices through which the acid may penetrate. The acid is laid on with a brush, as if the artist were making a wash-drawing. When the ground is removed and the plate printed from, the result is a print which gives the appearance of a drawing made upon the paper with a brush and ink.

IV

Soft-ground Etching

As the name implies, this is done with a soft ground instead of the usual hard etching-ground. A sheet of paper is placed upon the soft ground and a drawing is then made upon the paper with a pencil. When the paper is removed it takes the ground away with it wherever the pressure of the pencil has been applied. This leaves the copper exposed, and the biting is then done as in ordinary etching.

V

Dry-point

This is done with a sharp-pointed instrument, known as a *dry-point* because it digs directly into the bare copper-plate without the use of an acid. The dry-point is held in the hand like the etching-needle. The artist draws by digging into the surface of the plate. The action of the instrument throws up the copper on the sides of the lines exactly like a plough in the earth. The copper thus thrown up is known as *burr*. If left upon the plate it holds ink in the printing and gives the printed line a soft, blurred appearance. If the burr is removed with a scraper, the line that remains differs little from an etched line. Dry-point work is often used in conjunction with etching to give finishing touches. It also gives beautiful results when used by itself.

The dry-point and the etching-needle are as a matter of fact essentially the same instrument. When an etching-ground and acid are used the instrument is an etching-needle, but when the bare plate is dug into by the instrument, it becomes a dry-point. But needles may be used in etching so fine as to be useless in dry-point, because of their not having strength to dig into the copper.

VI

Mezzotint

This also is done upon a copperplate, but it differs greatly from the previous processes. The plate is first prepared with an instrument known as a *mezzotint rocker.* The rocker has a curved edge with fine teeth. It is rocked back and forth upon the plate in every direction, until the surface of the plate is a mass of little dots, each of which has a *burr* raised by the teeth of the rocker. If the plate were printed from in this condition, it would give a uniform black surface on the paper. The artist now takes a scraper and works upon the plate by scraping away the mezzotint ground. Wherever he scrapes, part of the work of the rocker is removed, and this portion of the plate will print lighter. By more or less scraping he may get any tone he wishes, from the blackest printers' ink to white paper. Thus he works from black to white instead of from white to black, as in the previous processes.

VII

Printing from Copperplates

In burin-engraving, etching, aquatint, dry-point, and mezzotint, the method of printing is the same. The work on the plate is not raised above, but is cut in below the surface. The printing is done as follows: The plate is inked over its whole surface with a thick printers' ink. The ink is then wiped off the surface, but remains in the lines. A sheet of paper is placed upon the plate, which is then run under a roller. The action of the roller presses the paper into the lines of the plate and the ink becomes transferred to the paper. The paper with its design upon it is known technically as a *print* or an *impression* from the plate.

Variations may be made in the printing by the manner in which the plate is inked or wiped. The most impor-

tant of these is known as *retroussage*. This is done with a fine rag, which is passed lightly over the plate after it has been inked and wiped. The action of the rag draws some of the ink out of the lines, leaving it upon their edges, which, in the print, gives a rich effect somewhat akin to dry-point.

VIII

Wood-engraving

This differs entirely in principle from the processes previously described. In those, the line which holds the ink for the printing is cut *into* the plate, and it is therefore *below* the surface of the copper. In wood-engraving the engraver cuts away the part of the block that is *not* to be printed from, and the part that holds the ink for the printing is therefore raised *above* the surrounding surface. The wood-block upon which the engraving is done must be hard and close-grained. Box-wood is commonly used. The instruments are chisel-shaped, or are sharpened to a fine edge, and are pushed away from the engraver in cutting into the block. A knife may also be used, and, in fact, any tool that will cut into the surface of the wood.

The nature of wood-engraving gives the engraver the choice of two methods of procedure, or a combination of the two. He may cut away the wood so as to leave narrow lines raised above the surface, resembling, when printed, the lines made by a pen on the paper. He may, on the other hand, cut lines in the wood-block in the same way that he would cut them in a copperplate, but the lines so cut will not show black in the subsequent printing, because they are below the surface of the block and cannot, therefore, hold the ink. As the ink is held by the surface on each side of the line, the result in the printing is a white line on a black ground. This work in white line is the true method for the wood-engraver, as it is more

in the spirit of his process than the black line, which requires more labour.

The inking of a wood-block for printing is done with a roller, as in ordinary printing from type.

IX

LITHOGRAPHY

A LITHOGRAPH, in its ordinary form, is simply a crayon-drawing on stone done precisely in the manner of a crayon-drawing on paper, the difference being that the drawing on stone may be multiplied, as in etching or engraving.

The crayon used in lithography is composed partly of a greasy substance which sinks into the stone wherever it is touched by the crayon. When the drawing is finished the surface of the stone is covered with acid, in order to fix the drawing, so that it will resist well in the printing; but the acid does not remain long enough upon the stone to eat into its surface. In lithography there is neither a raised nor an incised line. The printing is done from a perfectly flat stone, and the process differs, therefore, entirely from all the engraving or etching processes. In order to print impressions, the stone is moistened with water, and as water and grease do not combine, the parts drawn upon with the greasy crayon repel the water, while the parts not drawn upon absorb it. A roller charged with greasy ink is now passed over the surface, and for the same reason as before the ink is repelled by the wet parts and adheres to every part drawn upon. A sheet of paper is placed on the stone, which is then passed through the press. The ink becomes transferred to the paper and produces an exact facsimile of the drawing on the stone.

The lithographer may work on the stone with a scraper, for the purpose of taking out parts of his drawing, and he may even do his entire drawing by this method. In

this case, he blackens the surface of the stone with a crayon and works backward from dark to light, as in ordinary mezzotint.

He may also work on the stone with a brush and a greasy ink. This process gives in the printing the effect of a wash-drawing. It is sometimes called *lithotint.*

X

General Remarks on Printing

In all the processes described above, the number of impressions that can be printed is limited. The lines of the copperplates and wood-blocks begin to wear away by the action of printing, and the impressions on the paper show the effect of this wearing away of the plate or block. It is for this reason that print-collectors seek early impressions. These alone give the artist's work as he intended it to be. As the early impressions are the ones sought for, these may bring big prices when late impressions from the same plate are worth almost nothing.

In lithography the wearing is different from the wearing in the other processes. The stone itself does not wear, but the drawing upon it becomes used up, the grease which has penetrated the surface becoming gradually exhausted.

XI

Colour-printing

Wood-engraving and lithography are the processes that have been used most generally for printing in colours. The printing in this case is done from a number of stones or blocks. Each stone or block has on it that part of the drawing which is to be printed in a particular colour, and it is inked with the colour desired. The sheet of paper is run through the press for each print as many times as

there are colours, the stone or block being changed each time.

Colour-printing from copperplates may also be done in the same way. Printing in a number of colours may be done from a single plate, but, in this case, the different parts of the plate must be coloured separately, and the printer becomes himself an artist painting upon the plate.

XII

Original and Interpretative Prints

Irrespective of the process by which they are made, prints may be divided into two broad classes—interpretative and original. An interpretative print is a copy done by its author from the painting or other work of art of some one else, and holds, therefore, the place of a translation in literature. Such prints were of great value before the invention of photography, but their purpose is now made useless, because of the superiority of modern mechanical processes over the unreliable human hand. Interpretative prints may show great technical ability on the part of their author, and may therefore be interesting studies, but they cannot be considered works of art in any true sense of the words.

Original prints are those that are done by the artist himself, and they are as much original works of art as is a painting or a drawing. The difference between the print and the painting lies in the fact that while only one exists of the latter, a number may exist of the former, thus giving the artist the power to multiply his creation so that its possession may not be confined to one person. The artist may, of course, work from one of his own paintings or drawings, but this does not take away from the originality of the work, because the painting or drawing is his own, and he merely exercises his right to put his conception in another form, as he would do if he made

a water-colour after one of his paintings, or a painting after one of his drawings.

It is important that the relationship of the artist to the print, in the case of original work, be made clear, because even among artists themselves this relationship is often not understood. When a print by Dürer or Rembrandt is shown, the question is often asked by people who should know better: "Where is the original of that?" The answer is, of course, that the person is looking at the original. The explanation of this may be better understood by taking a particular case. Let us suppose that the artist is about to do an original etching. After preparing his plate he draws upon it with his needle, and then cuts the lines into the plate by means of the acid. The plate is then inked, the sheet of paper is placed upon it and it is run through the press. The result is an impression of the artist's work on the paper, the ink from the plate having come off upon the paper, and this is called a *print,* as we have already seen. The artist may re-ink the plate a number of times, and each time he will get an impression of his work similar to the first impression. Now each of these prints is an original work by the artist, because the prints are the result at which he has been aiming. The etched plate is not the original work, because it is incomplete. When the artist is making the etching upon the plate, he is thinking continually of the prints that are to be made, and he does his work always with reference to them. The plate itself is only part of the process, and the result aimed at is obtained only when the prints are made. The plate may be destroyed afterward, and still the work of art exists, as it was intended to exist, in the prints. The plate was merely one of the instruments used in their production, precisely like the brushes or the palette in the case of a painting. The decision as to the originality of a print lies, therefore, entirely in the answer to the question whether the artist has created a work of his own, or whether he has copied the work of another.

The question as to whether the plate or the print is the original work of art has been so greatly misunderstood that a few more words of explanation may not be out of place, in order to make the subject still more clear.

Let us take again particular cases, and this time of particular artists. Let us suppose that Edwin A. Abbey makes a pen-drawing on paper for the purpose of having it reproduced as an illustration in a book or a magazine. In this case, the pen-drawing is the original work, and the reproduction in the book or the magazine is only a more or less accurate copy of it. True, Abbey has in mind this reproduction while he is at work, because he knows that all the reproductive processes have their limitations, and he must not, therefore, do things that cannot be reproduced. But when the drawing is finished, it is handed over to another man, who makes a copy of it by a more or less mechanical photographic process. Now the best of the processes gives only a very imperfect idea of the artist's work, as any one may see by comparing the reproductions of Abbey's drawings with the original drawings themselves. The most important point, however, is this. Abbey himself considers the pen-drawing the original work of art. It is this drawing that he has been aiming at, and when it is done he gives the publisher the right to reproduce it, but he keeps the drawing for himself. He knows that the drawing is the valuable work of art which contains his idea as he wishes to have it expressed, and therefore he keeps it, not only in order that he may leave his work to posterity, but also because he knows that the pen-drawing has pecuniary value as being an original work from his hand. If he were forced to choose between the preservation of the drawing and the preservation of the reproductions, he would unquestionably choose the drawing, and certainly all lovers of art would make this their choice, too.

Now let us turn to Seymour Haden as an example of a print-maker. When Haden etches a plate he thinks

entirely of the aspect of the print that is to be made on the paper, and not at all of the aspect of the work that he is doing on the copperplate. So true is this that, like every etcher, he often takes an impression from the plate during the course of his work, in order to see what the exact result is when printed. When his work on the plate is entirely finished, he has a number of prints made, and these he sells as the works of art by which he wishes to be judged by his contemporaries and by posterity. In fact, not wishing to be judged by poor impressions, he actually destroys the plate as soon as it shows signs of being worn, and then nothing remains but the prints. The plate has been cast aside as a worn-out tool which has served its purpose in the production of the work of art, but which has now become valueless; and the work of art, according to the artist himself, is owned by any one who has an impression from the plate.

There is a class of prints that comes between the interpretative and the wholly original. In this class the artist draws upon a wood-block with a pen or a fine brush, and the engraver then cuts the wood away from between the lines, leaving them to be printed from so as to give the artist's work on paper. Now, while the artist may make an original drawing upon the wood-block, it is evident that the engraver adds a new element, coming, as he does, between the artist and the print. And yet, the artist may so dominate the whole process, as did Dürer and some of the Europeans, and as did Moronobu and all his successors among the Japanese, that it is difficult to refuse the title of original to the prints. The fact is that the engraver is almost a tool in the hands of a man like Dürer. He has merely to cut away mechanically the wood that is not wanted, leaving the drawing upon the block raised above the surrounding surface. He may spoil the artist's work, but he cannot add to it.

The case of the Japanese is different from that of the Europeans. Among the Japanese we have a class of prints

that stand entirely alone. It may be said that three artists are necessary in the production of a Japanese print —the man who makes the design, the engraver who cuts it, and the printer. The engraver's work is more or less mechanical, but it is not wholly mechanical, as in the European case. The man who makes the design is, of course, the dominating personage in the trio, and it is he who signs the work, and who deservedly gets the credit of it; but we must remember that he has had his assistants, whose names we ought to know, but which have been lost to us in most cases. The prints which result from this combination may be properly described as original, because they are the result aimed at by the artist and his assistants. The drawing made by the artist in the first place is pasted upon the wood-block, and is consequently destroyed in the subsequent processes. Nothing remains but the prints to show the artist's idea.

XIII

Technical Terms

A *state* is a change made by the artist in his work after one or more prints have been taken, and prints taken after the change consequently differ from the first ones. A *trial-proof* is an impression taken during the course of the work, in order that the artist may form a better idea of what he has done up to that point.

The word *after* signifies that the print is not an original work. If we say that Marcantonio made an engraving after Raphael, we mean that he made an engraved copy of one of Raphael's paintings or drawings.

On old prints, and sometimes on modern ones, we find the following inscriptions:

Fecit, or abbreviated to *ft., fec., fe., f.,* meaning *made.* Thus, *Claudius fecit* means *Claude made it.* This inscription is by no means a guaranty that the print is an original work, though in general we find it on such.

We find also the imperfect *faciebat* of the same verb, having the same meaning.

Some etchers have signed *fecit aqua forti,* meaning *made it in etching,* which may be taken as proof that the work is original unless accompanied by other inscriptions showing the contrary.

Invenit, inve., inv., or *in.* mean *invented.*

Delineavit, delin., deli., or *del.* mean *drew.*

Sculpsit, sculps., sculp., sc., and also *sculpebat* mean *engraved.*

Pinxit, pinx., pin., p., and *pingebat* mean *painted.*

Excudit, exc., or *ex.* mean *published.*

As illustrations of the above, if we find *Rigaud pinx. Drevet sc.* on a print, meaning *Rigaud painted it, Drevet engraved it,* we know that the print is not an original; while *C. Visscher del. et sc.,* meaning, *C. Visscher drew and engraved it,* would show us at once that the work was entirely Visscher's own, and consequently original. So, too, if we find *Nanteuil pin. et sculp.,* or *Nanteuil del. et sculp.,* we know that Nanteuil made the engraving after one of his own paintings or drawings, and that it is, therefore, original work. We also find on portraits such inscriptions as *Nanteuil ad vivum sculpebat* or *ad vivum del. et sculp.,* the *ad vivum* meaning *from life.* In these cases the work is, of course, original.

We find also the words *cum privilegio,* meaning *with permission.* This signifies that the owner of the picture has given permission to have it engraved. The inscription is generally found on interpretative work, but may be found on original work also, since, of course, an artist might ask permission to make an engraving of one of his own paintings.

We come also upon the abbreviation *imp.,* meaning *printed,* which is found frequently on modern prints, and which may stand for the Latin form of the verb, but which is more often an abbreviation of the French form.

Modern etchers and engravers have generally signed

their works without adding any inscriptions, though among some of them we find the old inscriptions in use.

On lithographs we find the abbreviations *lithog.*, *litho.*, and *lith.*, which are used on French lithographs in two different senses, somewhat perplexing to the uninitiated. If the abbreviation is found after an artist's name, it means that the lithograph is done by him, as *Eugène Isabey lith.*, and also we find *Lith. par Eugène Isabey*, with the same signification; but when we find the word *lith.* followed by the word *de* and a name, this means that the name is that of the printer, as *Lith. de Lemercier.* Thus, if we find the inscriptions *Eug. Isabey del. Lith. de C. Motte*, we are not to infer that the print is not an original by Isabey. The real meaning is that the work was drawn on stone by Isabey and printed at the printing establishment of C. Motte.

XIV

Remarque and Signed Proofs

A few words must be said before closing on the popular superstition concerning *remarque* and *signed* proofs, both of which were invented in the latter part of the nineteenth century for the purpose of deceiving the public into thinking they were getting a valuable thing, when, in fact, they were getting something of no value whatever.

A *remarque* is a small sketch drawn on the margin of the plate outside the principal work. Such sketches are sometimes found on trial-proofs, the artist having amused himself by making them during the course of his work, but they are always removed, or ought to be, before the regular edition is printed. Theoretically, when such remarques are found upon prints, they are signs of early impressions, and therefore bring higher prices than the later impressions without the remarques. Practically, however, a low class of dealers have sold prints from plates upon which the remarques were made *after* the

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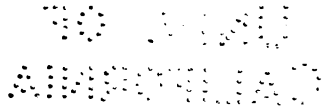
regular editions had been printed, the adding of the remarque later being easier than the placing of it on the plate in the first place, which necessitates its removal, subsequently, by the process of planing. The demand for remarque-proofs grew greater and greater, and the dealers did not fail to supply the demand, until the market was flooded with them. Now, the great masters have never made a practice of making remarque-proofs, and no reputable etcher would make them to-day, if he were doing original work, though the case is sometimes different with interpretative work. There are very few cases in the whole history of prints in which remarques are found upon prints by the really good etchers, engravers, and lithographers. It may be put down as an almost invariable rule that an original print with a remarque in the margin is absolute trash.

A *signed proof* is one upon which the artist has signed his name, generally with a pencil in the margin. This practice was unknown before the latter part of the nineteenth century, and when a signed impression of an earlier work is found, we may be sure that the signature was added because the artist had given the impression to some one, and had wished to make it more personal by his signature.

The whole practice of *signed proofs* is greatly to be condemned, not only because of the false impression it has given to the public, but also because of the degrading effect it has had and is having upon art and artists. The modern practice is supposed to be as follows: The etcher prints off a few fine impressions from a plate and signs them as being of particularly good quality. These he sells at a high price. He then issues a number of inferior impressions which he leaves unsigned, to distinguish them from the first ones, and these he sells at a lower price. Now, why should a man with any respect for his art issue inferior impressions at all? Why should he wish to be judged by any but the best? The



answer is, that for the sake of pecuniary gain he is willing to degrade his art. If he wishes to sign impressions for the sake of giving them the stamp of his approval, he should sign the whole edition; if he does not care to sign the whole edition, he should sign none; but in either case he should issue impressions of the first quality only. This practice of signing the whole edition, or of leaving it entirely unsigned, has been the general usage among the best etchers, but, unfortunately, there have been men even among the greatest who have not been above taking part in the shameful debasing of their art for the sake of larger monetary returns from an unsuspecting public.

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